Write a python code that does AES encryption only without decryption.

implement the AES algorithm as described in the FIPS 197(check attached pdf file).
You also have to implement the key generation algorithm and show the key generation process in a similar manner.
Show all steps by presenting the input and output of each step. For example, if a permutation is to be done, show the input to the permutation function, and also the output.

Perform each 4 AES steps:

1- byte substitution

2-shift rows

3-mix columns

4-add round key(show all rounds)

Print matrix after each step.

- At each line or two lines write an English comment explaining the argument/def
- Your code must work in any Operating system

DON'T COPY ANY CODE FROM THE INTERNET